FLUORIDE ACTION NETWORK PESTICIDE PROJECT

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TIMELINE for PFOS and PFOS perfluorinated chemicals
Compiled by FAN's Pesticide Project

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This timeline is still in draft form. We hope to complete it in the not too distant future !

We welcome contributions, suggestions, or corrections from anyone who would like to add to this Timeline.

We especially would appreciate the dates for the first-time use of PFOA and PFOS chemicals used in pesticides or as "inerts" - and data that can confirm that the substances used in "inerts" are waste products from the production of these chemicals.
Thanks - EC.

1938	Teflon discovery	Dr. Roy J. Plunkett discovered Teflon by accident in 1938 as a result of a failed experiment involving refrigerator coolant. The waxy substance proved to be the most slippery material in existence.	Ref. 16
1949	DuPont introduces Teflon	[Plunkett] began working for DuPont Jackson Laboratory in Deepwater, N.J., as a research chemist in 1936. Plunkett's discovery was found to be both heat-resistant and stick-resistant. After 10 years of research, DuPont introduced Teflon in 1949.	Ref. 16
1951	Washington Works plant begins using C8	DuPont begins using ammonium perfluorooctanoate, also called C8, to make Teflon and related polymers at its Washington Works plant near Parkersburg, W.Va. The chemical is produced by Minnesota Mining and Manufacturing, or 3M.	Ref. 2
1954	C8 toxicity		

		DuPont employees express concerns about the toxicity of C8.	Ref. 2
1956	3M begins selling Scotchgard Protector	Scotchgard Protector contained a fluorochemical that helped it repel stains.	Ref. 27
1962	FDA approval for Teflon cookware	Food and Drug Administration, which granted final approval to Teflon cookware in 1962	Ref. 4
1967	FDA approval of Zonyl for use in food packaging	In 1967, the FDA approved Zonyl, DuPont's leading brand of fluorinated telomers, for use in food packaging. It was a less costly and less labor-intensive alternative to the waxed-based papers previously used, which could not be recycled ... EPA officials have said they think Teflon and fluorinated telomers could be a source of C-8 in the environment.	Ref. 3
1968	Taves finds two forms of fluoride in human serum	Taves DR (1968). Evidence that there are two forms of fluoride in human serum. Nature. Mar 16;217 (133):1050-1. *Excerpts:* It has been assumed that there is only form of fluoride in serum, the inorganic F ion. It would therefore seem that either the value for serum fluoride which I found (1μM) (refs. 1 and 2) or that found by Singer and Armstrong (7.5μM) (ref. 3) must be in error. While the diffusion method of Singer and Armstrong has been shown to produce erroneous values, the same cannot be said for their ashing and distillation procedure... Preliminary data on the distribution of the extra fluoride in serum are shown in Table 2. The morinthorium regent was used to measure the fluoride after diffusion at 25° C either directly or after ashing. xtra fluoride seems to be associated with the albumin	Ref. 4A

		and cannot be ultrafiltrated. Concentrating the serum proteins concentrated the extra fluoride in proportion. These results are consistent with the hypothesis that there are two forms of fluoride in serum, exchangeable and non-exchangeable. In 1950, Smith, Gardner and Hodge (5) found normal values of 1.7 µM for serum fluoride in a fluoridated community, implying that they also were measuring only exchangeable fluoride. They distilled fluoride from blood with H_2SO_4 at 135° C and then ashed the distillate (6). If in fact there is a non-exchangeable fluoride in serum, it did not break down or diffuse under these conditions, implying a large stable molecule. These findings are consistent with the presence of a fluorocarbon molecule. There seems to have been very little consideration of this possibility in any biological work. Peters' found that fluoroacetate is synthesized by certain toxic plants, but that it is not a general phenomenon. His work, however, leaves open the possibility of other forms of organically bound fluorine. 1. Taves DR (1966). Nature, 211, 192. 2. Taves DR (1967). Nature, 215, 1380. 3. Singer L, Armstrong WD (1960). J App Physiol, 15, 508. 5. Smith FA, Gardner DE, Hodge HC (1960). J Dental Res 29, 506 6. Smith FA, Gardner DE (1951). J Dental Res 30, 182.	
1970	The U.S. Environmental Protection Agency is created	-	-

1976	Taves & Guy detect PFOA in pooled blood	Waldbott GL, Yiamouyiannis J (1977). Sepecial report. AAAS Fluoride Symposium in Denver. Fluoride, 10 (3):141-4. July. *Excerpts:* ... W.S.Guy of Children's Hospital, Cincinnati, Ohio, stressed the need for differentiating between inorganic and organic fluoride in human plasma. In conjunction with Taves [see 1968 (Taves) above] he had isolated in 1976 by spectroscopic analysis, perfluorooctanoic acid, a major component in pooled plasma which accounts for at least 1/3 of the total organic fluoride content. This compound reaches the blood stream from the use of such products as floor waxes, wax paper, Scotch Guard, and other items. Along with Taves, Guy suggested that fluoride determinations by methods of Armstrong and Singer are inaccurate and that the blood levels of fluoride correlate much more closely with fluoride levels in drinking water than has been previously reported. The levels of organic fluoride, however, were not related to the content of inorganic fluoride in drinking water. He suggested that in infants fluoride supplements amounting to 1/2 g daily are excessve. He also discussed the fetoplacental barrier for fluorides...	Ref. 4B
1978	C8 detected in workers blood	3M reports that C8 is detected in the blood of its workers. DuPont is "disturbed" that C8 might be causing "toxic effects" among employees at the Washington Works plant. The information is not shared outside the company.	Ref. 2

1980	DuPont determines continued exposure to C8 is not tolerable	Additional study by 3M confirms that C8 is toxic to rats and monkeys. DuPont determines that "people accumulate C8" and "continued exposure is not tolerable." The company begins sampling workers' blood for C8.	Ref. 2
1981	Published study found that rats fed fluorinated telomers metabolized them into C8	As early as 1981, a 3M study published in the journal Analytical Biochemistry found that lab rats fed fluorinated telomers metabolized them into C-8. A 3M test completed a year ago, after 3M had withdrawn from the business, showed that microorganisms in wastewater sludge broke down fluorinated telomers into C-8.	Ref. 3
March 1981	Eye defects found in rat study	A study by 3M links C-8, a key ingredient in Teflon, with eye defects in rats. DuPont transfers female workers out of its operations where C-8 is used.	Ref. 1
May 1981	2 babies of workers born with eye-related birth defects	May 1981 DuPont detects C-8 in the blood of five employees who had given birth in recent years. Two of their babies had eye-related birth defects.	Ref. 1
March 1982	More studies show no link to birth defects	After studies by DuPont show no link between C-8 and birth defects in rats, DuPont moves women of child-bearing age back into C-8-related work.	Ref. 1
1982	Concern about exposure of DuPont's emissions to local community	DuPont's director of employee relations recommends that all "available practical steps be taken to reduce this (C8) exposure because," among other things, "all employees, not just Teflon area workers are exposed" and "there is obviously great potential for the current or future exposure of members of the local community from emissions leaving the plant perimeter."	Ref. 2
Early 1980s	A DuPont employee who	When an employee volunteered to donate blood	Ref. 2

	volunteered to donate blood was turned away because of C8 in his blood	at the DuPont's Wasington Works plant's medical office, "the nurse shook her head and turned him away. His name was on a list of employees whose blood was contaminated with ammonium perfluorooctanoate, a chemical known within the company as C8."	
1984	DuPont finds C8 in local drinking water	DuPont sends employees to obtain drinking water samples from taps near Washington Works. C8 levels in the water are as high as 1.5 parts per billion in Lubeck, W.Va., and 0.8 parts per billion in Little Hocking, Ohio, where drinking water is drawn from wells across the Ohio River from the plant.	Ref. 2
1984	Dry Run Landfill opens	The 17-acre Dry Run Landfill, about 4 miles southwest of the community of Lubeck, is at the center of a major controversy over C8. Since the dump opened in 1984, DuPont has disposed of large amounts of C8-contaminated wastes in the facility. Company tests have confirmed that C8 is leaching from the landfill into Dry Run Creek at levels above the company's internal limits.	Ref. 28
1986	Teflon-based Stainmaster to protect carpets for sale.	DuPont begins selling the Teflon-based Stainmaster to protect carpets.	Ref. 27
1987	DuPont's chief toxicologist states accectable level of C8 in workers blood is 500 ppm	In 1987, DuPont's chief toxicologist said the acceptable level of C8 in the blood of workers was 500 parts per billion. A July 7, 1987, memo stated that employees whose C8 blood levels were half that "will be required to be removed from the exposure." ... DuPont never established an official limit for C8 in blood. Company scientists decided one wasn't needed, Rickard said. "There was no	Ref. 5

		need to set an action level because there are no known human health effects."	
1988	DuPont buys Lubeck well field in West Virginia	DuPont buys the Lubeck well field next to Washington Works for $2 million and helps drill new wells 2 miles downriver.	Ref. 2
1991	Dupont established a "community exposure guideline" for C8	DuPont establishes a "community exposure guideline" of 1 part per billion for C8 in drinking water. The company continued to cite the guideline in internal documents as recently as November 2001.	Ref. 2
1996	DuPont agreed to pay $200,000 in fines and upgrade its Dry Run Landfill	The fine was to resolve complaints that pollution from the dump was killing area cattle and deer.	Ref. 25
1998	3M reports to the EPA that low levels of fluorochemicals are widely present in humans based on tests of blood-bank samples.	-	Ref. 27
1999	DuPont dumps 55,000 pounds of C8 into Ohio River	DuPont dumped 55,000 pounds of C8 into the Ohio River during 1999.	Ref. 2
July 1999	The Tennant's sue DuPont alleging C8 disposal in landfill near their farm caused cattle to die.	In the early 1980s, DuPont purchased hilly parcels of West Virginia land owned by brothers Wilbur Earl, Jim and Jack Tennant. In 1984, the company began dumping waste containing C-8 into an unlined landfill in one of the hollows, records show. ... The Tennants sued DuPont in July 1999, alleging several hundred cows died after drinking from streams and ponds near the landfill. DuPont settled that case in 2001. Details are confidential, but more than 100,000 pages of company documents disclosed in that lawsuit became the basis of	Ref. 8

		a class-action lawsuit certified last year on behalf of Ohio River Valley residents.	
2000	DuPont releases 31,250 pounds of C8 into air	DuPont releases 31,250 pounds of C8 into the air during 2000, the latest year for which figures are available.	Ref. 2
May 2000	3 M announces phase out of C8	Under pressure from EPA, 3M announces it will begin phasing out C-8 and a related chemical due to "principles of responsible environmental management."	Ref. 1
October 2000	DuPont reaches an out-of-court settled with the Tennants Note. other papers have reported the settlement was made in 2001.	DuPont reaches an out-of-court settlement with a West Virginia farmer who filed a lawsuit claiming that C8 killed his cattle and sickened his family.	Ref. 2
August 2001	Attorneys file Class Action	Attorneys file a class-action lawsuit on behalf of West Virginia residents exposed to C8.	Ref. 2
October 2001	Consent Decreet between DuPont and West Virginia - Levels of C8 above 14 ppb in drinking water would trigger DuPont to provide alternative sources	An October 2001 consent decree between DuPont and the EPA's West Virginia and Ohio regional branches specified DuPont would have to provide temporary alternative sources of drinking water should concentrations of C-8 be found at or above 14 ppb in ongoing testing in the region. The level, since raised to 150 ppb, has been criticized by the Environmental Working Group.	Ref. 8
November 2001	West Virgina and DuPont sign a Consent Order	West Virginia and DuPont sign a consent order requiring another study of the potential health hazards posed by C8.	Ref. 2
January 2002	Little Hocking Water Assoc. in Ohio find their water supply is contaminated with C8	Officials from the Little Hocking Water Association find out for the first time that their water supply is contaminated with C8.	Ref. 2

		The West Virginia Department of Environmental Protection concludes that C8 in drinking water presents "possible health risks to the public" and that C8 "has been linked to possible health problems related to long-term exposure."	
March 2002	DuPont completes $50 million expansion of its Teflon business	DuPont completes a $50 million expansion of its Teflon business.	Ref. 1
March 2002	C8 detected 15 miles downriver	C8 is detected in the Tuppers Plains, Ohio, water system -- 15 miles downriver from Washington Works. Low levels of the chemical also are found in Pomeroy, Ohio, 70 miles downriver, and in the Belpre, Ohio, water system, 4 miles upriver from the plant. Experts conclude that smokestack emissions from Washington Works are causing some of the contamination. Under an agreement with the U.S. EPA, DuPont promises to reduce air and water emissions of C8 by at least 50 percent of 1999 levels by the end of 2003. The company also plans to install a system to remove up to 95 percent of the C8 in the plant's wastewater.	Ref. 2
March 12, 2002	DuPont agrees to provide alternative drinking water supplies if C8 levels are found to exceed 14 parts per billion.	US EPA Region III News Release: DuPont shall provide a temporary alternate drinking water supply for users of any private drinking water well and Public Water System in West Virginia or Ohio where such results show the level of C-8 exceeds 14 ppb.	Ref. 18
May 2002	Regulatory agences say 150 ppb of C8 isn't harmful to humans	A team of West Virginia, federal and private scientists convened by the state of West Virginia declares that water containing up to 150 parts per billion of C8 isn't harmful to humans.	Ref. 2

		See comments from the Little Hocking Water Association that detail the history of the "safe level" in drinking water from 14 ppb to 150 ppb.	
September 2002	US EPA begins review of data that links C8 to health problems	The U.S. EPA begins a rare "priority review" of data that links C8 to health problems, the first step in a potential effort to regulate the chemical. The agency cites studies showing that "exposure to (C8) can result in a variety of effects including developmental/reproductive toxicity, liver toxicity and cancer."	Ref. 2
September 2002	West Virginia approves weak air-exposure level for C8	West Virginia regulators approve an air-exposure level for C8 that is three times weaker than the limit proposed by an agency consultant, who says the lower level "is more protective of public health."	Ref. 2
Sept. 2002	US EPA suggests potential for reproductive and developmental toxicity	EPA says new data suggest potential for reproductive/developmental toxicity, and that blood samples suggest unexplained exposure to general public.	Ref. 1
Sept. 2002	DuPont's CEO, coauthors a paper on Sustainable Development	Walking the Talk: The Business Case for Sustainable Development, coauthored by Holliday, is published.	Ref. 1
October 2002	DuPont begins manufacturing C-8 at a plant in Fayetteville, North Carolina.	DuPont started manufacturing C-8 in October at a plant in Fayetteville, N.C., for its own use and for sale. DuPont also has begun to dispose of C-8 waste along the Delaware River as part of its efforts to control the pollution problem on the Ohio River. DuPont officials said disposing of C-8 waste in Delaware waters poses no environmental risk.	Ref. 8
December 2002	Ohio EPA endorses safe	In an internal memo, a top official at the Ohio Environmental Protection	Ref. 2

	level of 150 ppb in drinking water	Agency endorses West Virginia's C8 "screening level" of 150 ppb in drinking water. "As a result, no adverse health effects would be expected to occur in populations using the contaminated water as a source of drinking water," the Ohio EPA memo concludes. See comments from the Little Hocking Water Association that detail the history of the "safe level" in drinking water from 14 ppb to 150 ppb.	

TIMELINE for 2003 - 2004			
March 2003	US EPA estimates that females are at an unacceptable risk from exposoure to C8	The risk assessment prepared by the EPA, dated March 17, estimates that health risks to young girls and women of childbearing age are higher than levels considered acceptable by the agency. The report did not address other C8-related health problems suggested by animal studies, such as cancer and liver damage... The report estimated that women of childbearing age and girls ages 2 to 12 have an average margin of exposure of 66. Any number below 100 is considered by the EPA to indicate an unacceptable risk.	Ref. 6
April 2003	Jude rules DuPont has to pay for medical testing for up to 50,000 people.	April 2003 In class-action against DuPont, a W. Va. judge rules C-8 is "toxic and hazardous to humans," orders DuPont to pay for medical testing of up to 50,000 people. DuPont files petition to set aside the order.	Ref. 1
Reported April 5, 2003	Children found to have highest	EPA scientists are concerned about three studies conducted by	Ref. 7

	C8 levels in blood	3M last year that found both the Scotchgard compound and the Teflon compound in human blood across the nation... Average levels of C8 detected in all three studies were between 4 parts per billion and 5 parts per billion. The highest levels of C8 (56.1 parts per billion) were found in children, leading 3M researchers to speculate that children are exposed more frequently because they play on carpets treated with stain repellants. "We're still not sure how it's getting into people's blood," said Rick Renner, a 3M spokesman. None of the industry studies filed with the EPA identifies specific products made with the chemicals. However, a manual for researchers hired by 3M instructs them to prevent contamination of field samples by avoiding use of products -- including some packaging -- that contain perfluorochemicals. Examples in the manual include new clothing, water-resistant clothing, microwave popcorn, fast food, chicken sandwiches, french fries, pizza, bakery items, beverages, candy, cookies and candy bars.	
May 1, 2003	West Virginia Judge orders DuPont to pay for blood tests... and to pay costs for destroying documents	A West Virginia judge has found that a chemical used to make Teflon is toxic and has punished DuPont for destroying documents as it defends itself in a class-action lawsuit	Ref. 9

		involving the chemical. ... The latest ruling orders the company to pay for blood tests to measure exposure to ammonium perfluorooctanoate, also known as C8. The ruling also orders DuPont to pay the plaintiffs' attorney fees and other costs for delays in providing some company documents and destroying others. DuPont has until late May to appeal the ruling. Levels of C8 in the blood of people living near the plant could be 1,000 times higher than the general population, according to calculations based on a study DuPont published in 2001. The company now says the study was flawed. Judge Hill ruled the company should pay for blood tests to measure exposure levels. He also ruled that DuPont had ignored court orders to make records available.	
May 17, 2003	DuPont files motion to block release of medical records of their workers	A motion from DuPont to block the release of certain medical records of employees beyond testing for the presence of C8 was filed in Wood County Circuit Court Friday afternoon. ... Friday's filing by the DuPont counsel is in response to an order filed Thursday where counsel for the plaintiffs asked Judge George W. Hill to force DuPont to turn over medical documents.	Ref. 10
May 28, 2003	Teflon coated pans emit toxic particles and	Dr. Jennifer Klein, EWG chemist, tested a Teflon-coated pan's	Ref. 11

	chemicals within normal use on a typical stovetop, according to tests by the Environmental Working Group	temperature using a precision infrared thermometer to determine how quickly the pan achieved enough heat to begin releasing fumes. "Our simple test showed DuPont is wrong when they tell customers the pans won't degrade except under extreme misuse. Actually, the pans started emitting toxic particles and chemicals quite quickly at temperatures within normal use on a typical stovetop," Klein said.	
June 1, 2003	Judge George W. Hill refuses to step down in class action lawsuit. Judge Hill orders DuPont to turn over medical records of their employees whose blood was tested for C8	A judge in Parkersburg, W.Va., refused to step down from a class-action lawsuit.. Wood County Circuit Judge George W. Hill lives in the area where the chemical was detected and could be a potential benefactor, DuPont said. ... Hill said residents of Parkersburg, where he lives, do not qualify for the class because testing of the city's water supplies revealed nonquantifiable traces of ammonium perfluorooctanoate, or C8. ... Also last week, Hill granted the plaintiffs' request that DuPont turn over medical records of employees whose blood was tested for C8.	Ref. 12
June 22, 2003	3M replaces C8 in Scotchgard with a C4 chemical.	... The replacement aerosol-can Scotchgard that 3M first distributed to stores didn't work as well as the original. It was based on non-perfluoro chemistry and worked on water but not grease. Nothing repels like perfluorochemicals, 3M concluded. The challenge was to find	Ref. 13

		safe ones. 3M settled on perfluorobutane sulfonate, or PFBS, a four-carbon cousin of the chemical in the old Scotchgard, as the building block for Scotchgard's new generation. ``For providing protection you almost can't do it without a fluoro-chemical, short of plastic slipcovers," said Michael Harnetty, vice president of 3M's protective materials division. The new C4-based Scotchgard is completely safe, 3M says. The company adds that it has worked closely with the EPA and has performed more than 40 studies, which are confidential. The EPA won't release them.	
July 2003	DuPont launches $20 million ad campaign featuring Teflon products	DuPont launches a $20 million ad campaign featuring Teflon products.	Ref. 1
Sept. 2003	DuPont argues in court to remove Class Action judge	Arguments are heard on motion by DuPont to remove judge from case. Trial is postponed.	Ref. 1
September 27, 2003	Mother in Class Action speaks of the developmental problem suffered by her young daughter: her teeth failed to develop properly.	... Debra Cochran of Pageville, a stay-home mother of three, has begun her own investigation into the substance, driven by fears about her family's health. News reports about C8 peaked her interest months ago and now she is trying to find out if the manufacturing chemical could be a contributing factor in a developmental problem suffered by her 6-year-old daughter, Lauren. "We thought her teeth came in without	Ref. 14

		enamel," Cochran said. Lauren had to have her teeth removed after they failed to develop properly. Recently Cochran has discovered that several other families in her area have experienced the same problem...	
Oct. 2003	Dupont CEO honored at UN for ...	DuPont's CEO Holliday honored by U.N. Secretary General Kofi Annan for commitment to sustainable business.	Ref. 1
December 6, 2003	State Supreme Court overturns ruling that required DuPont to pay for blood tests for 50,000 people.	The state Supreme Court overturned a ruling yesterday that required DuPont to pay for blood tests for 50,000 people who claim a chemical used to make Teflon has contaminated their water supply. The 4-1 ruling overturned a lower-court order on behalf of residents who say their health has been affected by DuPont's use of ammonium perfluorooctanoate, also known as C8, at its plant in Wood County. The chemical company was not given proper notice that the residents were seeking the injunction, so the order is void, the high court said.	Ref.16
Reported in 2003	Long-term exposure to C8 "has not been directly factored into any risk estimation to date."	Long-term exposure to C8 concentrations of only 2 parts per billion in water -- the level detected in tap water provided to 12,000 customers of the Little Hocking Water Association in Athens and Washington counties -- would lead to blood levels of 600 parts per billion, according to the DuPont model. Scientists who	Ref. 5

		developed the model said the blood levels would be reached only after repeated exposure for more than six years. ... DuPont has known that Little Hocking's wells were contaminated since at least 1984, court records show. ... Long-term exposure to the chemical, Gray wrote, "has not been directly factored into any risk estimation to date."	
February 12 , 2004	US federal agency to study blood levels of residents in affected C8 Ohio communities	The four-year study is being funded by an $840,000 grant from the Environmental Justice Program of the National Institute of Environmental Health Sciences through the collaboration of the Decatur Community Association, environmental health researchers at the University of Pennsylvania School of Medicine and the Occupational Medicine Program of the HealthSouth Rehabilitation Hospital. Samples should begin to be collected by mid-2004, said Freeman. The 400 people chosen will be random, but must have lived in the area for at least four years. "There are studies being done now to determine where the highest levels, medium levels and lowest levels of C8 in the air are in this area," he said. "We want to randomly sample within those various regions."	Ref. 17
March 4, 2004	US federal agency to conduct 2-year study of young	Announcement: Longitudinal Study of Young Children's Exposures in their	Federal Register

	children's exposures in their homes to selected chemicals including Perfluorinated Chemicals. Docket No. ORD-2003-0011	Homes to Selected Pesticides, Phthalates, Brominated Flame Retardants, and Perfluorinated Chemicals (A Children's Environmental Exposure Research Study--CHEERS). Abstract: The U.S. EPA's Office of Research and Development's National Exposure Research Laboratory proposes to conduct a two-year longitudinal field measurement study of young children's (aged 0 to 3 years) potential exposures to current-use pesticides and selected phthalates, polybrominated diphenyl ethers, and perfluorinated compounds that may be found in residential environments. The study will be conducted in Duval County, Jacksonville, Florida over a two-year period from 2004 to 2006. Sixty young children will be recruited into this study in two cohorts: (1) infants recruited into the study soon after birth, and, (2) children recruited into the study at approximately 12 months of age... See also: Part A: Supporting Statement - EPA ICR Number: 2126.01 - 61 pages	
April 30, 2004	DuPont to launch $1M C8 study	"DuPont Washington Works officials announced Thursday plans to conduct a $1 million study to compare the health of employees who work directly with C8 and those who do not. The company is asking all 960 of its	Ref. 19

		employees at Washington Works to participate. Officials hope at least 750 will, said Paul Bossert, plant manager. Retirees and others who work at the plant for outside contractors will not be involved in the study, Bossert said... The examinations are slated to begin June 2 and will take about a month to complete ... DuPont has hired a private firm, Professional Health Services, Leachtown, Pa., to perform the survey. The protocol and results will be evaluated by two outside review boards, including the West Virginia University Institutional Review Board, said Robin Leonard, principal research epidemiologist for the DuPont Haskell Laboratory... During the examinations, the company will draw blood to test for serum levels of C8, and will provide urinalysis, pulmonary-function tests, chest X-ray and electrocardiograms. The study will focus on evaluating liver function ... The study would be more valuable if it used a control group who lives and works nowhere near where C8 is used, Deitzler said." [Deitzler is a lawyer representing the plaintiffs in the Class Action suit against DuPont]	
May 6, 2004	New study finds cancer rate higher in C8-exposed areas	A recently released study authored by Dr. James Dahlgren, a nationally known toxicologist retained by plaintiffs in a pending Wood County Circuit Court C8 class action	Ref. 20

			lawsuit filed against DuPont Washington Works, states "the overall cancer prevalence rate is higher in the population exposed to C8 when compared to the general population." ...According to Dahlgren's report, the aim of the study "was to compare cancer distribution and cancer prevalence rates in a PFOA-exposed population (residents) to that of the industry cancer registry data from an occupational exposed population and finally to the general population. We performed a questionnaire on 599 residents living near DuPont Washington Works." ...The residents from age 24 to 65 have a significantly higher rate of prevalence cancer when compared to the general population," according to the study. "Our findings indicate that the exposed residential population (residents) have similar cancer prevalence findings to the PFOA exposed workers. Prostate cancer in the workers was proportionately elevated among young age males," the report states. The report also notes findings of elevated prevalence rates of atypical cancers such as Hodgkin's, Leukemia and Multiple Myeloma. This data suggest that exposure to PFOA may alter cancer distribution in exposed populations (worker and residents) and may be an	

		important risk factor for an excess of cancer cases," according to Dahlgren's report...	
May 8, 2004	West Virginia Supreme Court orders DuPont documents unsealed in C8 suit	The West Virginia Supreme Court voted 5-0 Thursday to unseal the internal documents, which include a November 2000 memo written by in-house DuPont lawyer John R. Bowman that recommended "getting out in front and acting responsibly (to) undercut and reduce the potential for punitives." The ruling upholds a decision by the trial court judge... Another document unsealed Thursday, known as the "Win for DuPont" memo, said the company's goals were to "not create (the) impression that DuPont did harm to the environment" and to "keep (the) issue out of press as much as possible." ...	Ref. 21
June 24, 2004	EPA will conduct studies of C-8	The federal government will conduct its own scientific studies of a toxic compound now commonly found in human bloodstreams after months of trying to get the chemical industry to agree on how testing should be carried out, an Environmental Protection Agency official said Thursday... The EPA wants to study how C-8 and related chemicals break down and reach the environment and living tissues. The agency said it wants several tests on 13 compounds, and would move to carry out its own studies or conduct parallel tests if talks fail to make	Ref. 22

		progress by next month. ..	
July 7, 2004	Little Hocking Water customers needed for C8 study	An independent four-year study on the effects of C8 on Little Hocking Water Association Service District customers is set to begin this month. About 400 people will be asked in the following weeks to participate in the study by answering surveys and providing samples of blood and/or breast milk. Mailings are going out as early as today soliciting participants for the study. The main purpose of the study is to measure the levels of C8 in the bloodstream of a selected sample of residents who live in the Little Hocking Water Association District and if those levels are posing any health risks...	Ref. 23
July 8, 2004	EPA Takes Enforcement Action Against DuPont For Toxic Substances Reporting Violations	EPA's Office of Enforcement and Compliance Assurance (OECA) is taking an administrative action against E. I. DuPont de Nemours and Company (DuPont) for two violations of the Toxic Substances Control Act (TSCA) and one violation of the Resource Conservation and Recovery Act (RCRA). These violations consist of multiple failures to report information to EPA about substantial risk of injury to human health or the environment from a chemical during a period beginning in June of 1981 through March of 2001. Companies are required by TSCA to report such information immediately. EPA has	Ref. 24

		the authority to seek a penalty of $25,000 per day for violations occurring before January 30, 1997, and up to $27,500 per day for violations occurring thereafter, for each day that DuPont failed to report the information. EPA alleges that DuPont did not submit to the Agency information the company had obtained regarding the synthetic chemical Perfluorooctanoic Acid (PFOA). PFOA is used in the manufacturing process for fluoropolymers, including some Teflon® products, at DuPont's Washington Works facility in Washington, West Virginia... See also: US EPA vs. DuPont. Complaint and Notice of Opportunity for Hearing.	
August 12, 2004	DuPont's response to US EPA: "Answer and Request for Hearing."	Submitted by Thomas B. Johnston and Daniel E. Johnson of MCKENNA LONG & ALDRIDGE LLP (Washington DC) and Peter D. Robertson and John C. Martin (PATTON BOGGS LLP (Washington DC).	Ref. 26
September 8, 2004	DuPont Agrees to Settle Class Action Suit	DuPont agreed on Thursday to pay as much as $343 million to settle a class-action lawsuit alleging the chemical giant contaminated drinking water supplies in West Virginia and Ohio with a key ingredient of its Teflon product. * If approved, the settlement would fund a $5 million study into whether C8 causes disease in humans. If a scientific panel finds such a link, DuPont	Ref. 28

		would pay up to $235 million -the bulk of the potential settlement- on medical tests of residents to monitor their health. • DuPont would spend another $10 million to remove as much C8 from the area's water supply as possible by building state-of-the-art water treatment plants in two West Virginia and four Ohio water districts. • The proposed settlement also includes $70 million that DuPont would pay into a fund to be overseen by a court-appointed administrator. At least $20 million of that would pay for health and education projects. Another $22.6 million of the potential settlement is earmarked for lawyers' fees and expenses.	

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